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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 09/994,258 | 11/26/2001 | David Mitford Gillies | 50037.70US01 | 8620 |
| 27488 | 7590 | 06/21/2004 | EXAMINER | |
| MERCHANT & GOULD P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903 | | | KIM, KENNETH S | |
| | | | ART UNIT | PAPER NUMBER |

2111

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/994,258 | Applicant(s) GILLIES ET AL. | |
| | Examiner Kenneth S KIM | Art Unit 2111 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 12-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


KENNETH S. KIM
PRIMARY EXAMINER

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/1/02</u> . | 6) <input type="checkbox"/> Other: _____ |

1. Claims 1-22 are presented for examination.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11 and 22, drawn to a method of reversing conditional branch by predicate expression transformation, classified in class 717, subclass 159.
 - II. Claims 12-21, drawn to a method of identifying influencing predicate, classified in class 712, subclass 234.
3. The inventions are distinct, each from the other because of the following reasons: Inventions of *Group I* and *Group II* are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because *the invention of group I can be used in a system without the identification of an influencing predicate*. The subcombination has separate utility such as *use in a system without the branch reversal*.
4. Because these inventions are distinct for the reasons given above and the search required for *one group* is not required for *the other group*, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with *Mr. Tim Sullivan on June 15, 2004* a provisional election was made *without traverse* to prosecute the invention of *group I, claims 1-11 and 22*. Affirmation of this election must be made by applicant in replying to this Office action. *Claims 12-21* are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).
7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-11 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- (a) Claim 1, it is not clear how the obtained predicate expression is used.
- (b) Claim 1, it is not clear what is transformed from what to what.
- (c) Claim 1, it is not clear how the modified conditional branch is different from the original conditional branch. It is not clear what is meant by "conditional branch is reversed". The construction of "modifying ... with ... transformation" is ambiguous, because it is not clear whether a physical entity is modified by a physical entity.
- (d) Claim 22, the same as (a) to (c).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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10. Claims 1, 6, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by McKinsey et al, U.S. patent No. 6,446,258.

McKinsey et al teaches the invention as claimed in claims 1 and 6 including a method of producing binary level (BL) conditional branch reversal on a computer architecture that support a predicated execution, comprising:

- (a) obtaining a predicate expression (col. 11, line 6) representing a condition that influences a direction of a program flow of the BL conditional branch to be reversed,
- (b) determining a BL transformation (col. 10, line 62) that causes the BL conditional branch to be triggered when an opposite condition is true,
- (c) modifying the BL conditional branch with the determined BL transformation, wherein the BL conditional branch is reversed (col. 10, line 63; col. 11, lines 3 and 7), and
- (d) wherein determining the BL transformation comprises computing an inverse predicate expression that describes the opposite condition (col. 10, line 62) – claim 6.

The program product claim 22 is equivalently rejected based on the same reason.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hibi et al taught a method of binary level conditional branch reversal.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (703) 305-9693. The examiner can normally be reached on M-F (8:30-17:00).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

June 17, 2004


KENNETH S. KIM
PRIMARY EXAMINER

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